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To Thomas Nash/R5/USEPA/US@EPA, Gwendolyn Massenburg/R5/USEPA/US@EPA, Joan Tanaka/R5/USEPA/US@EPA

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bcc

Subject CRS Site Cost Issues

Tom, Gwen and Joan,

I am attaching for your consideration a position paper developed by the CRS Site Group to bring to your attention data that is inconsistent with what we understand to be EPA's assumptions underlying the partial excavation remedy analysis.

<<CRS SITE GROUP DATA COUNTER TO PARTIAL EXCAVATION COST ANALYSIS 3-14-07.DOC>>

We also request a meeting as soon as practicable to discuss the proposed plan for the CRS Site. We are prepared to send a team to Chicago as soon as you are able to arrange a time to meet so that we can discuss reasonable limits on a targeted excavation remedy and alternatives that achieve the same level of risk abatement at lower cost and risk. From my perspective as the Chair of the CRS Site Group, such a meeting would be an important step in preserving the cooperative relationship that we have built over the last five years at the CRS Site and that the Agency has placed in jeopardy by its apparent disregard for the preferred cap remedy in the approved RI/FS and its poorly defined approach to limiting the excavation.

Please give the attached paper and our request for a meeting prompt and serious consideration.

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OTHER OVERLOOKED COST FACTORS

Because EPA only assumed excavating to a depth of 4 to 8 feet, the U.S. EPA did not include a contingency for water handling. A contingency for handling water should be included in case excavation to a greater depth is required or in the event that rain water in the work area must be handled.

The U.S. EPA cost estimate did not address the special excavation requirement for excavating right up to the Engelhard property to the North. The CRS Site Group estimate included provisions for sheeting and shoring to ensure that the excavation will not disturb the underground storage tanks installed just across the Engelhard property line. Regardless of the depth of the excavation, special provisions will be required to support this excavation wall.

The CRS Site Group would like to meet with the agency at your earliest convenience to discuss cost effective approaches to risk abatement at the Site.

Table 1

Groundwater Depths in NW Corner

Well	Ground Elev. (ft)	Nov 2003 GW Elev. (ft)	Nov 2003 GW depth (ft)	Dec 2003 GW Elev. (ft)	Dec 2003 GW depth (ft)
MW-1 (east)	701.6	687.02	14.6	687.08	14.5
MW-9D (west)	703.6	690.18	13.4	691.18	12.4
GP-6	Wet at 16 feet				
GP-38	Dry at bottom of boring, 15 feet				
GP-39	Dry at bottom of boring, 11.5 feet				
GP-40	Wet at 12 feet				
GP-44	Dry at bottom of boring, 16 feet				

GP borings were advanced in July and October 2003.

Table 2

Compounds Exceeding Region 9 PRGs at Depths Greater Than Six Feet in the NW Corner

	PRGs	GP-6 (4-8')	GP-6 (12-16')	GP-38 (8-12')	GP-38 (12-15')	GP-39 (4-8')	GP-39 (8-11.5')	GP-40 (6-8')	GP-40 (10-12')	GP-44 (14-16')
Ethylbenzene	20	0.21 J	6.5	0.12 J	0.16 J	0.68 J	0.17 J	**240**	8.4	0.0027 J
PCE	3.4	**7.6**	2.2	**8.8**	**15**	**24**	3	**12 J**	2.7	0.0085
TCE	0.11	**6.3** ✓	**0.91 J**	**24**	**31**	**16** ✓	**0.99**	**< 36 J**	**0.9 J**	0.0079
Xylenes	420	3.1	61	1.2 J	1.2 J	6.5	1.5	**2400**	79	0.025
Antimony	410	81.5	375	**971**	**1750**	0.8	< 7.3	0.61	1.3	2.4
Arsenic	1.6	**46.2**	**19.5**	**188**	**228**	**7.1**	**4.8**	**12.3**	**7.4**	**14.3**
Cadmium	450	11.4	35.8	**561**	**1510**	2.4	0.25	3.2	9.7	17.2
Lead	750	**1120**	103	**3380**	**2700**	57.7	12.8	16.3	50.8	12.5
Aroclor 1248	0.74	**< 0.910**	**1.3**	< 0.041	< 0.038	< 0.037	< 0.040	< 0.037	< 0.038	< 0.039

all units - mg/kg
PRGs - Preliminary Remedial Goals (Region 9 Industrial)
Concentrations Exceeding the PRGs are bolded

A) Groundwater:

- The data in the Remedial Investigation (RI) report (Figures 3-6 through 3-9) can be used to calculate the depth to groundwater in MW-1, located on the western side of the northwest area. Figure 3-7 identifies the bedrock elevation as approximately 682 feet near MW-1. Figure 3-6 indicates that 20 feet of unconsolidated fill are above the bedrock near MW-1, yielding a surface elevation of 702 feet. Figures 3-8 & 3-9 establish the groundwater elevation at MW-1 as 687.02 feet and 687.08 feet on 12 November 2003 and 17 December 2003 respectively. When we subtract the groundwater elevation from the surface elevation, we get the depth to groundwater of approximately 15 feet (702-687 equals 15 feet). More precisely, Remedial Investigation (RI) report (Figures 3-8 through 3-9) and Table 1 show that the depth to groundwater in MW-1, located on the western side of the northwest area, was 14.6 feet in November 2003 and 14.5 feet in December 2003.
- The depth to water indicated in the Geoprobe borings from July and October 2003 (RI Appendix A – Boring Logs) ranged from 12 to greater than 16 feet (see Table 1).
- The approximate depth to groundwater on the eastern side of the northwest area using data from MW-9D was 13.4 feet in November 2003 and 12.4 feet in December 2003.

In conclusion, the agency's assumption that the vertical extent of excavation will be limited to 4-8 feet by the depth to groundwater is not supported by the site data in the RI.

B) Concentrations in Excess of Region 9 Industrial Preliminary Remediation Goals (PRGs):

- EPA's cost estimate also assumed that excavation would stop because the soil achieves PRGs at a depth of 4-8 feet (average of 6 feet) and at the perimeter of the northwest corner area. Soils exceeding PRGs are not limited to a depth of 4-8 feet but are found at depths of up to 16 feet in GP-6 (TCE, PCBs, and arsenic) and GP-44 (arsenic) and at depths of 12-15 feet in GP-38 (TCE, PCE, arsenic, antimony, cadmium and lead). See Table 2 (below).
- Soils exceeding PRGs were found at depths much greater than six feet in five out of the seven soil borings advanced in the northwest area. Table 2 summarizes the soils data for the northwest corner. Soils exceeding PRGs were found at a depth of 12 to16 feet in boring GP-6, 12 to 15 feet in GP-38, 8 to 11.5 feet in GP-39, 10 to 12 feet in GP-40 and 14 to 16 feet in GP-44.

In conclusion, the agency's assumption that excavation will stop at 6 feet because the soil will meet the PRGs is inconsistent with the Site data.

CRS Site Group
March 14, 2007

Cost Factors for Remediation Options for Northwest Corner of the CRS Site

U.S. EPA and the CRS Site Group held a conference call on 5 March 2007 to discuss U.S. EPA's preliminary decision to propose a partial excavation remedy for the CRS Site. We continue to believe that the infiltration barrier proposed in the approved Remedial Investigation/Feasibility Study for the northwest corner of the Site provides risk abatement and cost effective protection, and that a partial excavation is not supportable. However, this paper is limited to a list of concerns that we have with the factual foundation that the agency is using to estimate the scope and costs of partial excavation.[1] The data cited below appears to be contrary to the Agency's understanding of Site conditions that was used to explain the scope and costs of a partial excavation remedy during the 5 March 2007 call.

BACKGROUND

U.S. EPA estimated a cost for the partial excavation and backfill in the northwest corner of the CRS Site of $1,071,168. The CRS Site Group believes that EPA has significantly underestimated that cost and that the actual cost could exceed $5 million. This paper exposes certain assumptions used in the agency cost estimate that are not consistent with site data and several factors that affect the cost that have been overlooked.

FACTUAL ISSUES

1) Excavation Depth:

U.S. EPA's cost estimate assumes the average excavation depth would be limited to six feet in the Northwest corner. The footnote to EPA's Cost Estimate for Excavation ($1,178,674.20) states, "Soil estimate is assuming 0.5 acres, and excavating an average of 6 ft deep across the entire property, realizing the depth will range from 4 to 8 feet." During the March 5th call, EPA explained that the 8-foot maximum excavation depth was based on either (1) the point at which the Region IX Industrial Preliminary Remediation Goals (PRGs) are attained[2]; or (2) the depth at which we encounter groundwater because EPA will not require that we excavate into the saturated zone. The following data indicates that site groundwater is far deeper than 8 feet in the Northwest corner and the known concentrations of VOCs, PCBs, and metals in soil exceed the PRGs below eight feet.

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[1] The CRS Site Group will separately address the remedy selection issue.

[2] The CRS Site Group does not agree that Region IX PRGs are appropriate cleanup standards for this Site.